PN - JP4327525 A 19921117

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OPD - 1991-04-26

TI - SUSTAINED RELEASE MEDICINE-CONTAINING CERAMIC POROUS SUBSTANCE

IN - ISHII TSUNEHIRO

PA - KYOCERA CORP

IC - A61K9/00 ; A61K47/02 ; A61K47/36 ; A61K47/42 ; A61L27/00

TI - Ceramic porous substance contg. controlled release drugs used as artificial bones - composed of biodegradable base materials selected from chitin and collagen attached to inner walls or outer surface of porous area of substance

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PA - (KYOC) KYOCERA CORP

IC - A61K9/00 ;A61K47/02 ;A61K47/36 ;A61K47/42 ;A61L27/00

AB - J04327525 Substance comprises biodegraded base materials contg. one or more cpds. selected from chitin, its derivs. and collagen which are attached to the inner walls or outer surface of the porous area of the ceramic porous substance.

- USE/ADVANTAGE - The substance is used for controlled release of drugs used as artificial bones which supplement deficient regions, in the treatment of osteomyelitis and malignant tumours or in the prevention of infectious disease. The substance can release drugs under controlled conditions for a prolonged period of time, thus avoiding concn. release of the drugs which may lead to toxicological adverse effects.

- In an example, hydroxyapatite was made into a slurry, with which urethane foam was soaked. The resultant mixt. was calcined at 1300 deg.C to prepare 2 pieces of ceramic porous substance comprising hydroxyapatite with 30% porosity and 300 micron average pore dia. 5g of chitin and 1g of collagen were dissolved in 50 ml of pH 3 aq. HCl and the resultant soln. was satd. with 2g of antibiotic kanamycin. One piece of the substance was soaked with this soln., defoamed and dried. The substance was finally washed with water to remove excessive HCl to prepare a controlled release drug-contg. ceramic porous prod. in which the chitin-collagen biodegradable base material holding dispersed kanamycin was attached to the inner walls and outer surface of the pore of the hydroxyapatite porous substance. (Dwg. 0/0)

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IN - ISHII TSUNEHIRO

PA - KYOCERA CORP

TI - SUSTAINED RELEASE MEDICINE-CONTAINING CERAMIC POROUS SUBSTANCE

AB - PURPOSE:To obtain a sustained release medicine-containing ceramic porous substance capable of sustaining a medicine for a long period and preventing side effects due to concentrated elution of the medicine by applying a biodegradable substrate containing the medicine, dispersed and held therein to the inner wall surfaces in pores and the outside surface of a ceramic porous substance.

- CONSTITUTION:A sustained release medicine-containing ceramic porous substance is obtained by applying a biodegradable substrate containing and holding a dispersed medicine therein and further containing at least one selected from chitin and its derivative or collagen to the inner wall surfaces of pores and the outside surface of a ceramic porous substance composed of calcium phosphate-based ceramics, alumina, zirconia, etc. Calcium phosphate-based ceramics excellent in biocompatibility, etc., are preferred as the aforementioned ceramics and tricalcium phosphate and hydroxyapatite at 1.4-1.7 atomic ratio (Ca/P) are especially preferred in aspect of rapid production of newly formed bones. The porosity of the ceramic porous substance is preferably 30-95% and the average pore diameter is preferably within the range of 10-300mum.

I - A61K9/00 ;A61K47/02 ;A61K47/36 ;A61K47/42 ;A61L27/00